



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/849,775	05/21/2004	Chingfu Tsou	3722-0194PUS1	1108
2292	7590	07/28/2005	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			HAUPT, KRISTY A	
			ART UNIT	PAPER NUMBER
			2876	

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

1.9

<b>Office Action Summary</b>	<b>Application No.</b> 10/849,775	<b>Applicant(s)</b> TSOU ET AL.	
	<b>Examiner</b> Kristy A. Haupt	<b>Art Unit</b> 2876	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 May 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ✓ 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ✓ 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Priority***

The Examiner acknowledges the Applicant's request for priority under 35 USC § 119 for Application Number 10/849,775 filed 21 May 2004.

### ***Claim Objections***

Claims 1, 6 11 and 12 are objected to the following claims:

**With respect to claims 1 and 11:** The addition of the word "type" to an otherwise definite expression (e.g. sweep fingerprint sensor) extends the scope of the expression so as to render it indefinite. Appropriate clarification and correction is required to alleviate the indefiniteness of the language "sweep-type fingerprint sensor". See M.P.E.P. § 2173.05 (b).

**With respect to claims 6 and 12:** It is unclear as to what is "it" in the claim. The word "it" should be changed to – the fingerprint-sensing surface --.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains.  
Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jarosz [US 6,494,380 B2] in view of Lin et al. US 6,360,953 B1 and Nobuo [JP 2000-076412 A].

With respect to claim 1, Jarosz teaches a card device, 1, comprising:

A substrate having two long sides and two short sides (Figure 1)

A sweep-type fingerprint sensor, a microelectronic wafer, 5, as a fingerprint sensor integrated in the card, which is embedded into the substrate and has an exposed fingerprint-sensing surface (Column 3, Lines 17-20 and Figure 1)

Wherein the sweep-type fingerprint sensor is disposed in a rectangular low-stress region having a dimension substantially smaller than or equal to 30 mm \* 22 mm (Column 1, Lines 38-39).

Jarosz fails to explicitly teach the shortest distance from the low-stress region to each of the long sides is substantially equal to 2 mm and the shortest distance from the low-stress region to each of the short sides is substantially equal to 2 mm.

Lin teaches a smart card with a fingerprint reader, 16 (See Abstract, Col. 3, Lines 19-56; and Figure 1). Lin teaches different placements of the fingerprint

sensor within the smart card (See Col. 4, Lines 2-19 and Figures 2-5; Figure 2 shows a fingerprint sensor, 22, that is disposed in the lower right quadrant of the smart card, 23)

Nobuo teaches a fingerprint sensor, 2, that is disposed at the corner edge of the smart card, 1; See Figure 1).

In view of Lin's and Nobuo's teachings, one of ordinary skill in the art would readily recognize that placement of the fingerprint sensor can be anywhere within the card, preferably a corner edge of the card where the user can easily place his/her finger and provide optimum reading surface to the fingerprint sensor.

It would have been obvious to one of ordinary skill in the art to place the fingerprint sensor in a position near a corner edge of the smart card in order to accommodate the user and further improve operational contact of the user's finger with the sensor (Lin et al. Column 4, Lines 10-19).

Art Unit: 2876

3. Claims 2, 3, 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jarosz in view of Lin et al. Nobuo as applied to claim 1 above, and further in view of Manansala US 6,653,723 B2.

The teachings of Jarosz, as modified by Lin and Nobuo have been discussed above.

**With respect to claims 2, 3, 6 and 8:** Jarosz as modified by Lin and Nobuo fails to teach:

Wherein the rectangular low-stress region has the dimension substantially smaller than or equal to 22 mm \* 22 mm

Wherein the rectangular low-stress region has the dimension substantially smaller than or equal to 22 mm \* 14 mm

Wherein the fingerprint-sensing surface is configured such that a finger sweeps across it in a direction, which defines an angle with each of the long sides

Wherein the angle is substantially equal to 0 degrees.

However, Manansala teaches:

Wherein the rectangular low-stress region has the dimension substantially smaller than or equal to 22 mm \* 22 mm (Figure 12A teaches the dimensions of the fingerprint sensor as being 14 mm \* 4.3 mm; Column 8, Lines 45-53)

Wherein the rectangular low-stress region has the dimension substantially smaller than or equal to 22 mm \* 14 mm (Figure 12A teaches the dimensions of the fingerprint sensor as being 14 mm \* 4.3 mm; Column 8, Lines 45-53)

Wherein the fingerprint-sensing surface is configured such that a finger sweeps across it in a direction, which defines an angle with each of the long sides (Figure 6 teaches a sweep direction, 612, that is 0 degrees with the long side of the sensor, 600)

Wherein the angle is substantially equal to 0 degrees (Figure 6 teaches a sweep direction, 612, that is 0 degrees with the long side of the sensor, 600).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the dimensions of the fingerprint sensor of Jarosz as modified by Lin and Nobuo with the dimensions as taught by Manansala in order to reduce the overall size of the sensor (Column 8, Lines 48-49).

4. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jarosz in view of Lin et al. and Nobuo as applied to claim 1 above, and further in view of Löfberg US 4,582,985.

The teachings of Jarosz, as modified by Lin and Nobuo have been discussed above.

**With respect to claims 4 and 5:** Jarosz as modified by Lin et al. and Nobuo fails to explicitly teach:

Wherein each of the short sides has a length substantially equal to 56 mm

Wherein each of the long sides has a length substantially equal to 86 mm.

However, Löfberg teaches:

Wherein each of the short sides has a length substantially equal to 56 mm

(Column 1, Lines 21-23)

Wherein each of the long sides has a length substantially equal to 86 mm

(Column 1, Lines 21-23).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the card device of Jarosz as modified by Lin and Nobuo with the dimensions as taught by Löfberg as those dimensions are an accepted ISO standard (Column 1, Lines 19-20).

5. Claims 7, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jarosz in view of Lin et al., Nobuo and Manansala, as applied to claim 6 above, and further in view of Chou US 2004/0179718 A1.

The teachings of Jarosz, as modified by Lin, Nobuo and Manansala have been discussed above.



**With respect to claim 7:** Jarosz as modified by Lin et al, Nobuo and Manansala fails to explicitly teach:

Wherein the angle is substantially equal to 90 degrees.

However, Chou teaches wherein the angle is substantially equal to 90 degrees (Figure 2 teaches a fingerprint, 21, sweeping in the direction of the arrow, which forms a 90 degree angle with the long side of the smart card, 4).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the sweep angle of the card device of Jarosz as modified by Lin, Nobuo, Manansala and Chou to provide a sweep angle of 90 degrees, which are all natural movements of a finger and is a design choice that would not modify the operation of the device.

**With respect to claims 9 and 10:** Jarosz as modified by Lin et al, Nobuo and Manansala fails to explicitly teach:

Wherein the angle is substantially equal to 45 degrees

Wherein the angle is substantially equal to that defined by a diagonal of the substrate and each of the long sides.

Chou teaches wherein the angle is substantially equal to 90 degrees (Figure 2 teaches a fingerprint, 21, sweeping in the direction of the arrow, which forms a 90 degree angle with the long side of the smart card, 4)..

In view of Manansala and Chou's teachings, one of ordinary skill in the art would readily recognize that a sweep angle between 0 and 90 degrees is a natural movement of a finger and therefore any angle could be chosen to be the sweep angle for the sweep-type fingerprint sensor.

Therefore, it would have been obvious to one of ordinary skill in the art to modify the sweep angle of the card device of Jarosz as modified by Lin, Nobuo, Manansala and Chou to provide sweep angles between 0 and 90 degrees, which are natural movements of a finger, and further such modifications are a design choice that would not modify the operation of the device, and also since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70 (CCPA 1950).

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jarosz in view of Lin et al. and Nobuo. as applied to claim 1 above, and further in view of Tschudi et al. US 6,785,407 B1.

The teachings of Jarosz, as modified by Lin and Nobuo, have been discussed above.

**With respect to claim 11:** Jarosz as modified by Lin and Nobuo fails to teach:

A groove is formed on the substrate and the sweep-type fingerprint sensor is located in the groove. The groove is for guiding a finger to put therein and guiding the finger to sweep across the sweep-type fingerprint sensor.

However, Tschudi et al. teaches the card device (Column 1, Line 15) wherein:

A groove is formed on the substrate (Figure 2), and the sweep-type fingerprint sensor is located in the groove (Figure 2, 20). The groove is for guiding a finger to put therein and guiding the finger to sweep across the sweep-type fingerprint sensor (Column 4, Lines 43-49).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the card device of Jarosz as modified by Lin and Nobuo with the placement of the sweep-type fingerprint sensor in a groove formed on the substrate in order to guide the finger, as taught by Tschudi et al. to guide the user's finger movement toward the correct direction/placement, thus providing a greater control of the movement of the finger and prevent a movement in a direction other than that required (Column 4, Lines 43-49).

7. Claims 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jarosz in view of Lin et al., Nobuo and Tschudi et al., as applied to claim 11 above, and further in view of Manansala US 6,653,723 B2.

The teachings of Jarosz, as modified by Lin, Nobuo, and Tschudi have been discussed above.

**With respect to claims 12 and 14:** Jarosz in view of Lin et al., Nobuo and Tschudi et al. fails to teach:

Wherein the fingerprint-sensing surface is configured such that the finger sweeps across it in a direction, which defines an angle with each of the long sides

Wherein the angle is substantially equal to 0 degrees.

However, Manansala teaches:

Wherein the fingerprint-sensing surface is configured such that the finger sweeps across it in a direction, which defines an angle with each of the long sides (Figure 6 teaches a sweep direction, 612, that is 0 degrees with the long side of the sensor, 600)

Wherein the angle is substantially equal to 0 degrees (Figure 6 teaches a sweep direction, 612, that is 0 degrees with the long side of the sensor, 600).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the invention of Jarosz with the sweep angle as taught by Manansala as a horizontal swipe of the finger with respect to each of the long sides is a natural movement for use with a sweep-type fingerprint sensor.

8. Claims 13, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jarosz in view of Lin et al., Nobuo, Tschudi et al. and Manansala, as applied to claim 12 above, and further in view of Chou US 2004/0179718 A1.

The teachings of Jarosz, as modified by Lin, Nobuo, Tschudi and Manansala have been discussed above.

**With respect to claims 13, 15 and 16:** Jarosz in view of Lin et al., Nobuo, Tschudi et al. and Manansala fail to teach:

Wherein the angle is substantially equal to 90 degrees

Wherein the angle is substantially equal to 45 degrees

Wherein the angle is substantially equal to that defined by a diagonal of the substrate and each of the long sides.

However, Chou teaches:

Wherein the angle is substantially equal to 90 degrees (Figure 2 teaches a fingerprint, 21, sweeping in the direction of the arrow, which forms a 90 degree angle with the long side of the smart card, 4)

Manansala teaches a sweep angle of 0 degrees while Chou teaches a sweep angle of 90 degrees.

In view of Manansala and Chou's teachings, one of ordinary skill in the art would readily recognize that a sweep angle between 0 and 90 degrees is a natural movement of a finger and therefore any angle could be chosen to be the sweep angle for the sweep-type fingerprint sensor.

Therefore, it would have been obvious to one of ordinary skill in the art to modify the sweep angle of Manansala with that taught by Chou, as sweep angles between 0 and 90 degrees, all natural movements of a finger, are a design choice that would not modify the operation of the device, and also since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70 (CCPA 1950).

#### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kristy A. Haupt whose telephone number is (571) 272-8545. The examiner can normally be reached on M-F 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Lee can be reached on 571-272-2398. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

7/22/05  
KAH  
KAH

  
DIANE I. LEE  
PRIMARY EXAMINER